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George Yatskievych. 2013. **Steyermark's Flora of Missouri, Volume 3. Revised Ed. Dicots, Fabaceae (subfamily Faboideae) through Zygophyllaceae** (ISBN: 978-0-915279-13-5), hardback. Missouri Botanical Garden Press (P.O. Box 299 St. Louis, MO 63166-0299) in cooperation with the Missouri Department of Conservation (P.O. Box 180, Jefferson City, MO 65201-0180); xvii + 1382 pp. $65.00. 194 plates of black and white line drawings; 20 figures, including 27 individual black and white photographs; 798 distribution maps.

The long-awaited and anticipated Volume 3, which completes the revision to Julian Steyermark's (1963) *Flora of Missouri*, by the state's premier botanist George Yatskievych has finally been published and what a masterpiece it is! Volume 3 covers the Fabaceae (where Volume 2 left off) through the Zygophyllaceae and includes treatments on 1,031 species, 65 infraspecific taxa, and 134 hybrids. All told, the entire three-volume set is no less than 3,554 pages long and includes 582 plates and 2,726 county distribution maps involving 2,839 species and 3,166 taxa. As in Volumes 1 and 2, Volume 3 is extremely thorough and includes information on recent changes in taxonomy, potential confusion with similar or closely related taxa, and provides some of the most complete descriptions and measurements of plant habitat and reproductive features found in any botanical flora. Additionally, each treatment includes a wealth of information on history, natural history, economic and commercial value, status in cultivation, invasiveness, conservation value, chemical properties, medicinal value, and changes in distribution where applicable. The magnitude of data provided is reflected in the fact that the author has cited no less than 1,369 references!

Because the taxonomy of dicots is in a constant state of flux and there is a lack of consensus on the alignment and division of various taxa, the author utilized the expertise and assistance from specialists on some groups (e.g. Jay Reveill on various legumes, James B. Phipps on *Crataegus*, and Mark P. Widrlechner on *Rubus*, etc.). The author fully acknowledges that additional studies, especially those involving molecular techniques, will be necessary to further clarify taxonomic relationships for some groups. Even then it is unlikely that there will be total agreement on some taxonomic entities but such is the nature of botanical study and research.

Another highlight of the book is the high quality of the 194 plates that provide excellent detail and enlargement of flowers, fruits, leaf vestiture, and habit. Despite the individuality of the 10 contributors who were contracted to do the illustrations, there is amazing continuity throughout the book. Another plus is that the genus *Rubus* includes subgeneric and sectional keys using a combination of primocanes and floricanes as well as inflorescence characters. Similarly, keys to *Lespedeza, Populus*, and *Salix* include both vegetative and reproductive characters involving flowers and fruit.

Despite the superior quality of the book, it is not without its faults. The most noticeable flaw is the fact that there is no family key but simply a statement on what would be page xviii: "The key to dicot families will appear in a supplementary publication." This is most unfortunate because no time table has been given when such a publication will ever be completed. We can only hope that it is sooner rather than later, especially given so many taxonomic changes in various dicot families; without a family key and knowledge of what genus a particular taxon occurs in, it will difficult for some to navigate to the correct location in the book. Interestingly, the author states on page vii in the preface that "the next logical step for the Flora Project will be an effort to update and condense the information in the three-volume encyclopedia into a one-volume manual." There is no mention of the importance of first completing a key to families. While there would be obvious benefit for a condensed update on changes for the entire flora, it would not be nearly as critically important as a familial key.

Another negative mark is that the key to legume subfamilies is not repeated in Volume 3. Anyone needing to key out an unknown legume must potentially use both Volume 2 and Volume 3, especially if the unknown taxon is in the subfamily covered in Volume 3 (i.e. Faboideae). A similar situation occurs for members of the genus *Acer* that has been moved from the Aceraceae covered in Volume 2 to the Sapindaceae covered in Volume 3. Anyone attempting to key out an unknown *Acer* species after reaching that genus in the Sapindaceae key must then use the key to the genus in Volume 2. Obviously, the taxonomy of plants is in a constant state of flux so the unfortunate set of circumstances involving the genus *Acer* is no fault of the author but it would have been helpful to repeat the key to the genus in Volume 3. That, however, was surely not possible due to scheduled deadlines. Finally, it would have been useful to include a short discussion in the introduction or preface on some of the more recent and divergent taxonomic changes in some genera such as some *Desomodium* to *Hylodesmum,* some *Lespedeza* to *Kummerowia*, *Psoralea* to *Orbexilum* or *Pediomelum, Coronilla* to *Securigera, Bumelia* to *Sideroxylon*, *Saxifraga* to *Micranthes*, *Dodecatheon* to *Primula*, *Hybanthus* to *Cubelium*, etc. The author does provide a short summary of some of the major familial changes in the preface to the book, but it is difficult to comprehend the magnitude of such changes without the help of a table that would list the old and new names for families, genera, and in some cases, species. The author does provide a summary of the new families that have emerged from Scrophulariaceae and genera that are now merged into this family on page 1106 but as noted above, the changes would have been best represented in a comparison table.

Some amateur botanists and naturalists are likely to have difficulty with many of the technical terms used in family, genera, and species accounts, especially those associated with molecular genetics, but the author provides a glossary with definitions of sophisticated botanical language. Due to scheduling deadlines, it is unfortunate that some species are not illustrated (e.g. *Aeschynomene rudis, Centrosema virginianum, Cotoneaster acutifolius, Dalea gattingeri, D. villosa, Lablab purpureus, Lathyrus tuberosus, Rhodotypos scandens*, multiple species of *Rubus*, *Spirea japonica*, etc.). As with any botanical compilation, however, it is impossible to keep up with new additions of taxa to state floras and the author mentions in the preface that an average of nine species are added to the Missouri flora each year. Several species of *Crataegus* have been reduced to varietal rank but the lack of county distribution maps for the different variants prevents a visual evaluation of areas of the state where such varieties may be found or a cursory examination of the conservation status of rare taxa based on the number of counties where they have been documented.

Overall, any negative comments on the book are significantly outweighed by the outstanding quality of the content. As with Volumes 1 and 2, Volume 3 of the *Flora of Missouri* should be on the book shelf of every botanist, naturalist, and plant enthusiast in the Midwest. I suppose there may be a few individuals who will complain about the $65 price tag, but the book is a bargain when compared to the information provided. The late Julian Steyermark is someone the author has always looked up to and a quote from Yatskievych's acknowledgements is worth repeating here. "Julian Steyermark is a model of what a botanist should be, and his high standards of scholarship are something I continue to aspire to, but fear I will never reach." In completing all three volumes of the revision to Missouri's flora, not only has Yatskievych reached Steyermark's standards, he has exceeded them and if Julian was still with us I am sure he would concur.

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